

Concussion

For information on all types of injuries visit:
<http://www.cssphysio.com.au/Doctors/fordoctors.html>



Latest Information 2016

I wrote a detailed newsletter on concussion in 2013, which can still be accessed through the following link:

<http://www.cssphysio.com.au/pdfs/Consensus-Statement-April-2013.pdf>

This current newsletter is an update on the latest information related to concussion recognition and management. It is a summary of: Caine (2016) - see references.

Current recommendations are that if it is determined an athlete has been concussed, they should not return to sport on the same day. They should be assessed to look for developing symptoms and cleared by an experienced medical practitioner before return to sport. Assessment will include analysis of the mechanism of injury, signs & symptoms, cognitive functioning, and a neurological assessment including balance testing. The internationally recommended SCAT3 Assessment Tool covers all relevant aspects of assessment, and can be accessed via the following link:

<http://bjsm.bmj.com/content/47/5/259.full.pdf>

Medical imaging is not indicated for concussion, unless there is suspicion of more serious head or brain injury. Further assessment tools can be used post injury. Examples are

- CogSport - a computerized neurocognitive test
- VOMS (vestibular/ocular motor screen)
- PCSS (Post-concussion symptom scale) which was recently found to predict those likely to experience more prolonged symptoms (Meehan et al 2016).

The symptoms and signs of concussion can be quite

variable, and not always obvious. To assist in diagnosis, the British Journal of Sports Medicine published a 'Pocket Concussion Recognition Tool' in 2013. This can be downloaded at:

<http://bjsm.bmj.com/content/47/5/267.full.pdf>

Immediate removal from play is indicated when the athlete displays any of the following signs:

- Loss of consciousness
- Falling to the ground without protecting the head.
- Seizure or tonic posturing
- Confusion / disorientation
- Memory impairment
- Balance disturbance
- Blank / vacant stare
- Acting out of character

Numerous other more subtle symptoms have been described including: headache; dizziness; sensitivity to noise; confusion; irritability; a feeling of pressure in the head; blurred vision; difficulty concentrating; drowsiness; sadness / being more emotional; neck pain; balance problems; feeling 'in a fog'; trouble falling asleep; being nervous / anxious; nausea / vomiting; sensitivity to light; fatigue / low energy.

More serious injury may be suspected, and referral to an emergency department indicated, in the following cases:

- Presence of neck pain
- Increasing confusion or irritability
- Repeated vomiting
- Seizure or convulsion
- Weakness or tingling / burning in arms or legs

- Deteriorating consciousness
- Severe or increasing headache
- Unusual behavioral change
- Double vision

Management of Concussion

The athlete should stay in the company of a responsible adult and not be allowed to drive or consume alcohol. They should avoid taking aspirin, NSAIDs, sleeping tablets & sedating pain medications.

Physical & cognitive rest is important in the early stages. This may require time off work or school. Most symptoms should resolve within 7-10 days. After 24 hours without any symptoms, the patient may commence a staged return to cognitive physical activity. A minimum of 24 hours is spent at each stage, and if there is a recurrence of symptoms there should be a step down to the previous stage for at least 24 hours after symptom resolution. The stages are:

- Light aerobic activity
- Basic non-contact sport drills
- More complex sport drills which may include resistance training but no contact
- Full contact training after medical review
- Return to sport

Children & Adolescents

Those aged less than 18 years may be more susceptible and take longer to recover. School programmes may need to be modified to include more regular breaks, and increased time to complete tasks. The above protocol should be extended so that return to contact sport does not occur in less than 14 days from the resolution of all symptoms.

Modifiers to Recovery Time

A number of factors may impact on concussion management and demand increased time before return to sport or activity. These may include

- A high number of concussive symptoms
- High severity of symptoms
- Prolonged loss of consciousness (> 1 min).
- Post concussive seizure
- Previous history of concussion
- Age
- History of depression, anxiety, migraine, learning disability, ADHD, or sleep disturbance
- Use of psychoactive or anticoagulant medications.

References:

1. Caine, P (2106). Coming to a head: concussion in sport. SportsPhysio, 3, 6-9.
2. Meehan, W et al (2016). Initial symptom burden predicts duration of symptoms after concussion. Journal of Science & Medicine in Sport, 19, 9, 722-725.

For information for doctors on physiotherapy management of all types of injuries visit:

<http://www.cssphysio.com.au/Doctors/fordocors.html>

Information for patients is at:

<http://www.cssphysio.com.au/forpatients.html>



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